

Figure 1 A

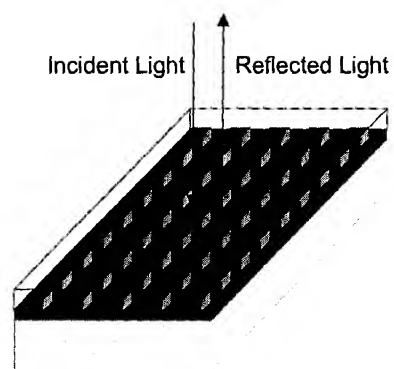


Figure 1 B

103780-2306260

FOI b7D b7E b7F b7G b7H b7I b7J b7K b7L b7M b7N b7O b7P b7Q b7R b7S b7T b7U b7V b7W b7X b7Y b7Z

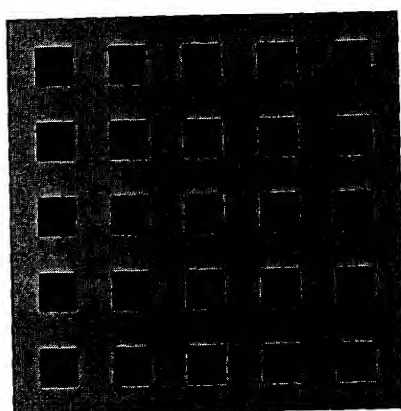


Figure 3A

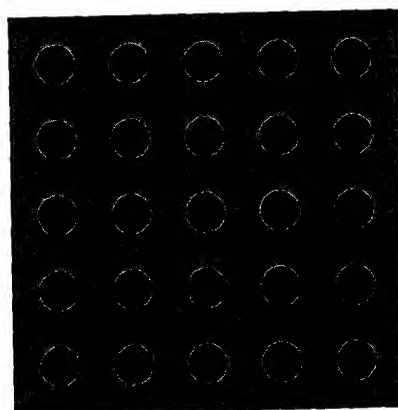


Figure 3B

Figure 3

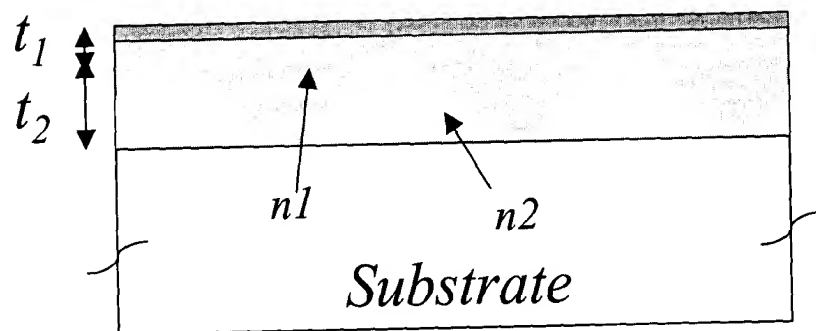
[illegible]

Figure 4.

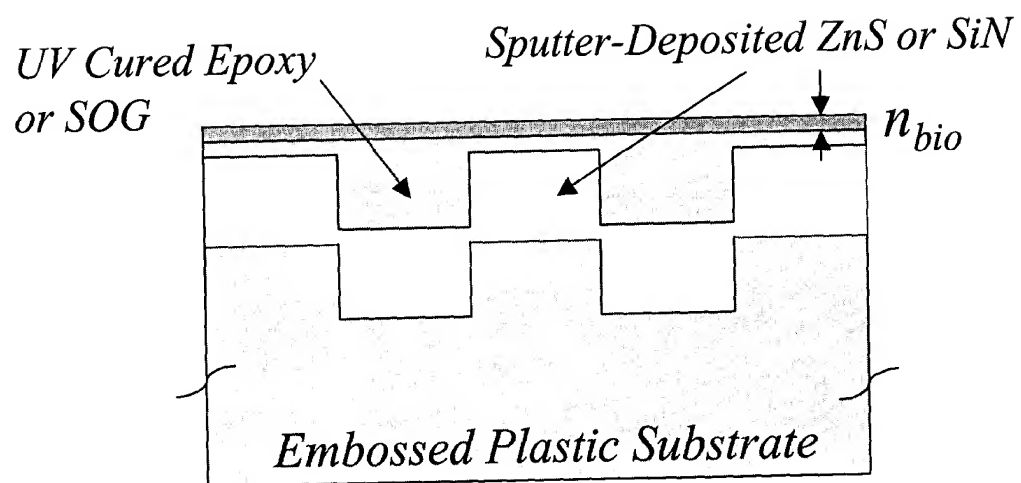
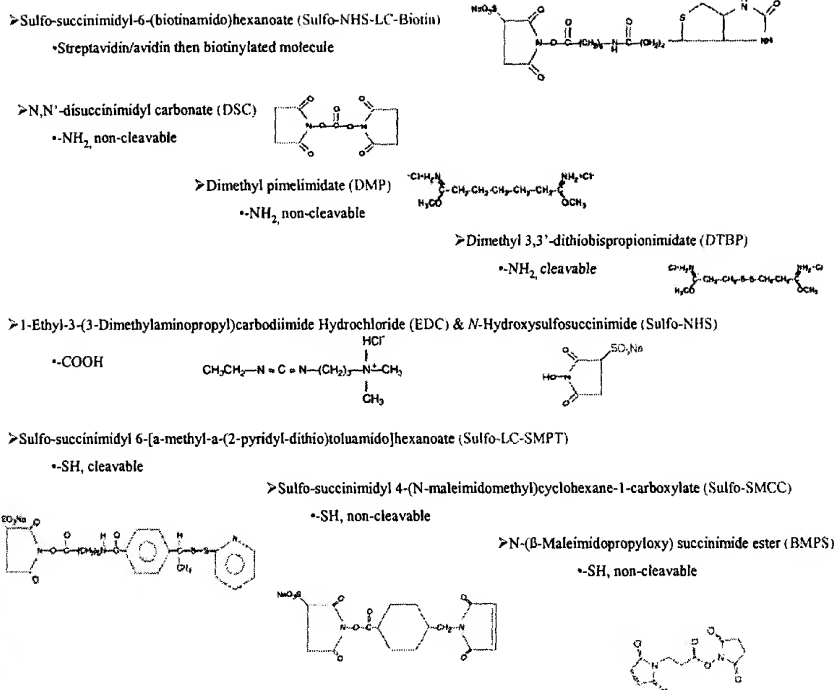


Figure 5.

Amine



Aldehyde

- Directly with aldehyde or first amino then aldehyde
- -NH₂

Ni(II)

- Using nitrilotriacetic acid (NTA) group, which forms a chelate with Ni(II)
- His-tagged molecules

Figure 6

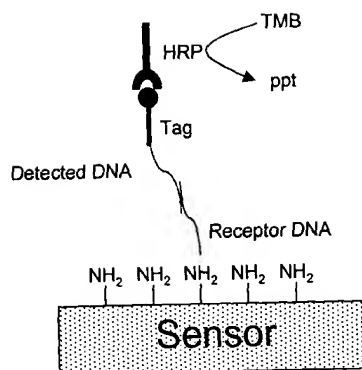


Figure 7A

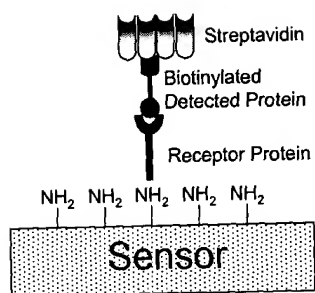


Figure 7B

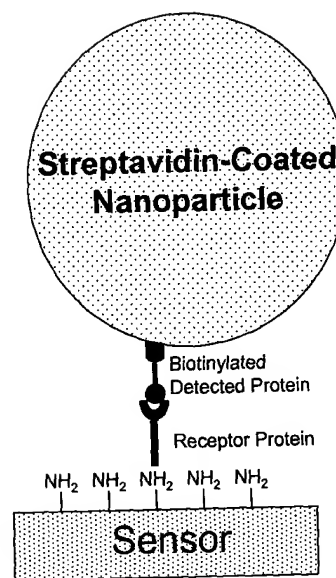


Figure 7C

Figure 7

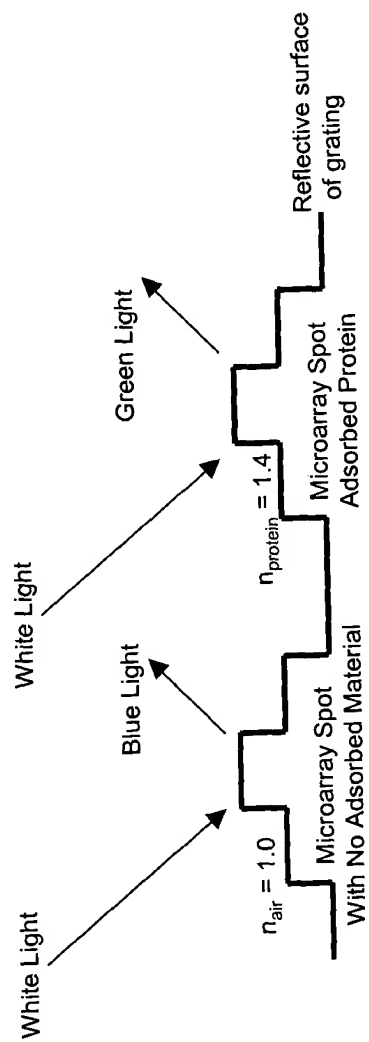


FIGURE 8

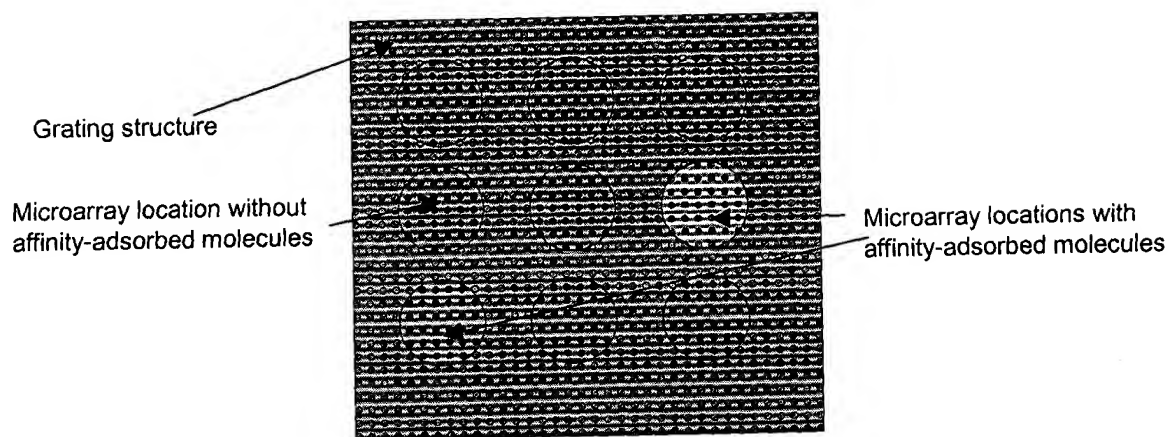


FIGURE 9

009303EE 004E04
105120 " 25E0E600

□ Microtiter plate

□ Microarray slide

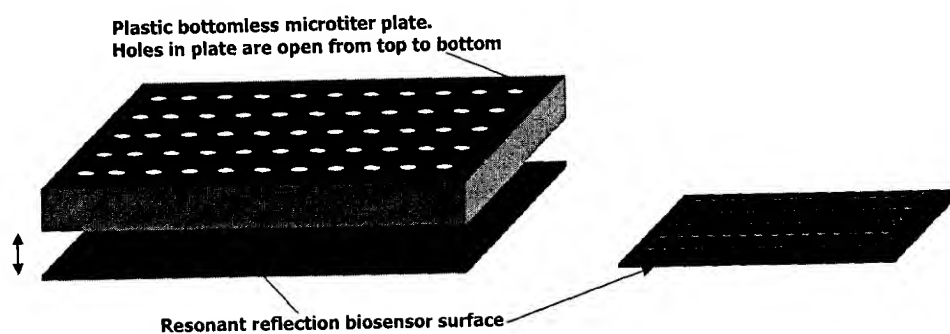


Figure 10A

Figure 10B

Figure 10

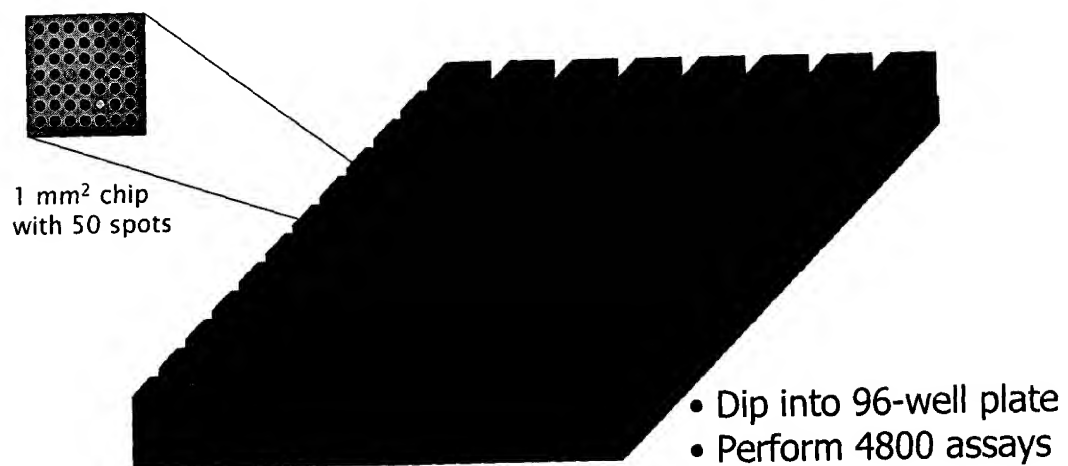


Figure 11

FIGURE 12

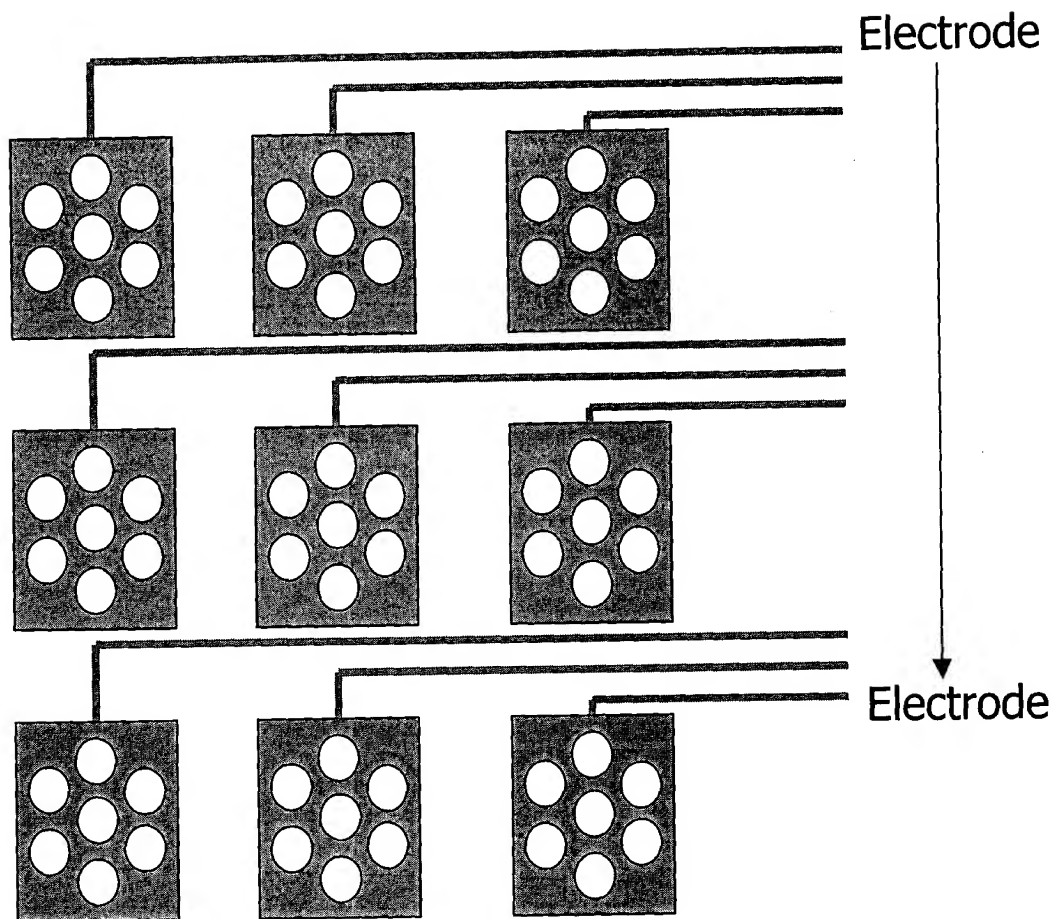
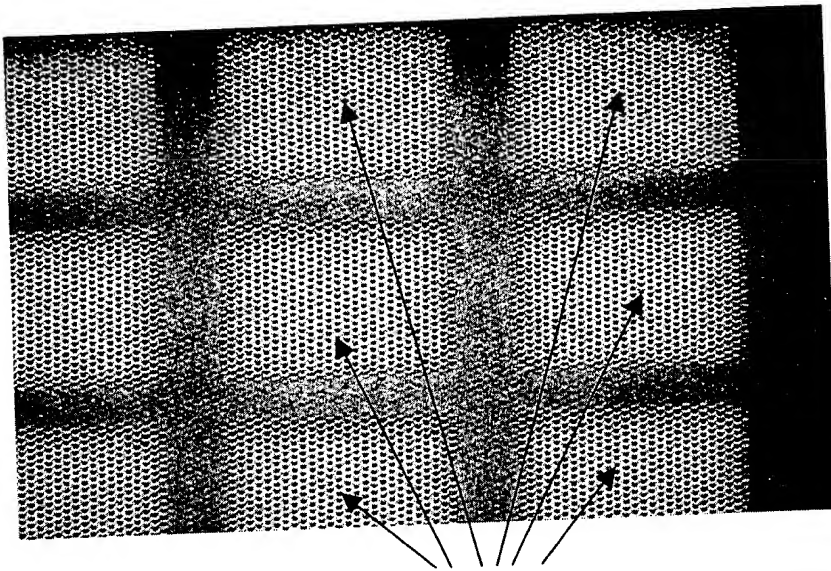


FIGURE 12



Separate electrode grating regions

FIGURE 13

00930352.004604
109780" 25000000

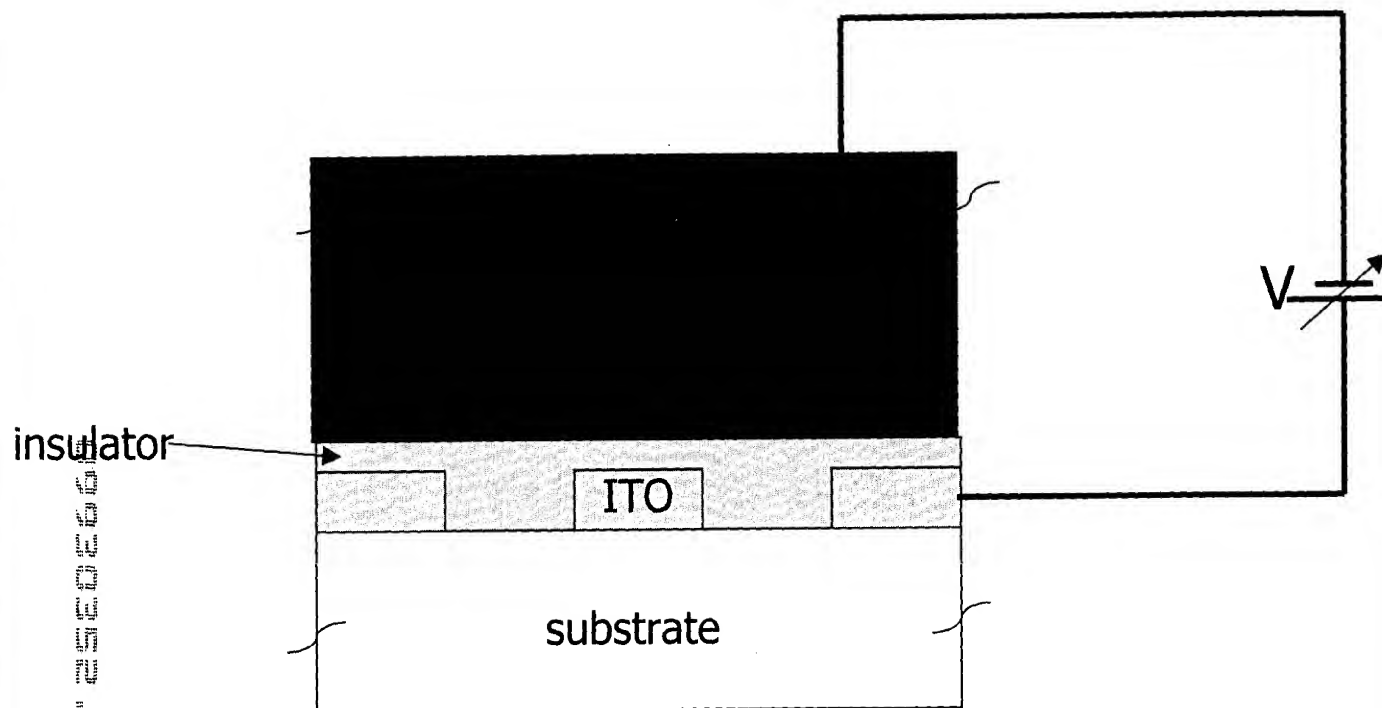


FIGURE 14

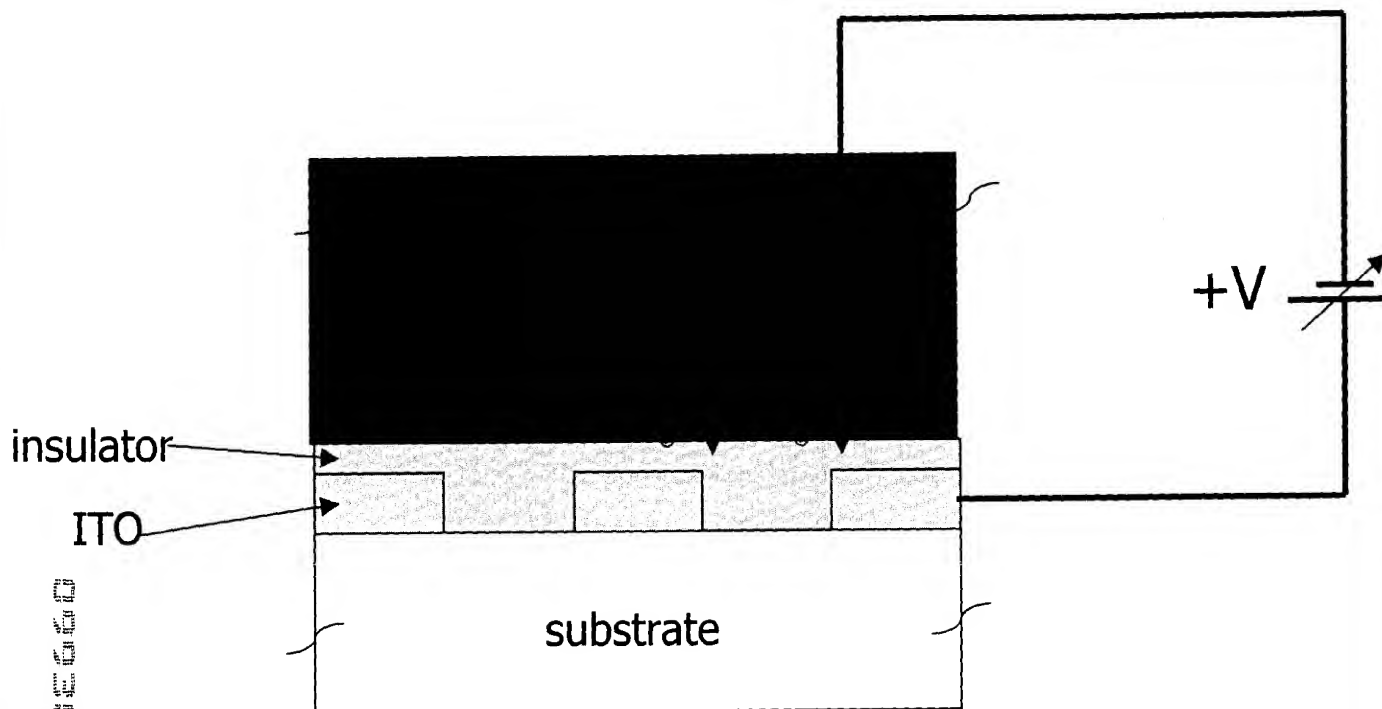


FIGURE 15

105760 " 057600

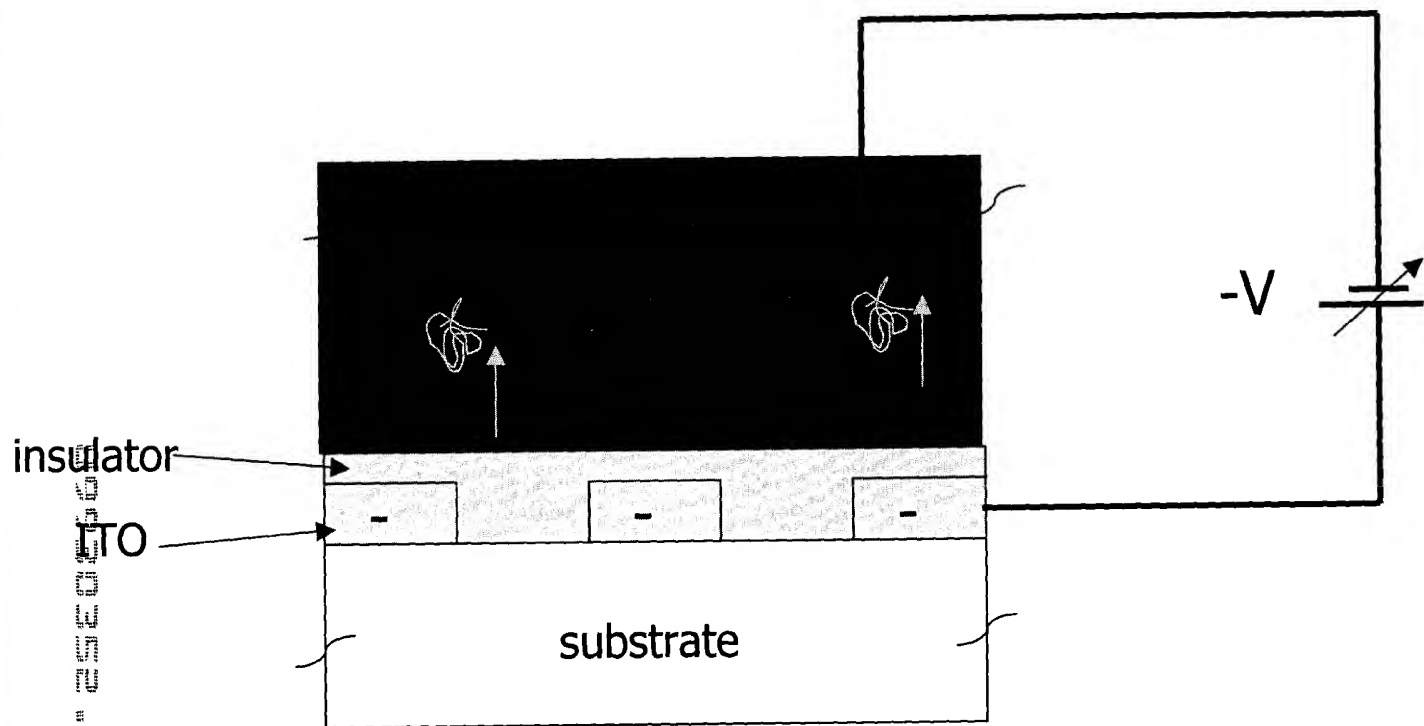


FIGURE 16



Figure 17

TOP SECRET

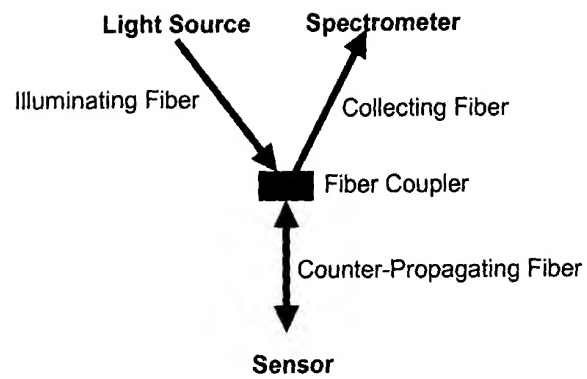


Figure 18

12777 12778 12779 12780 12781 12782 12783 12784 12785 12786 12787 12788 12789 12790 12791 12792 12793 12794 12795 12796 12797 12798 12799 12800 12801 12802 12803 12804 12805 12806 12807 12808 12809 12810 12811 12812 12813 12814 12815 12816 12817 12818 12819 12820 12821 12822 12823 12824 12825 12826 12827 12828 12829 12830 12831 12832 12833 12834 12835 12836 12837 12838 12839 12840 12841 12842 12843 12844 12845 12846 12847 12848 12849 12850 12851 12852 12853 12854 12855 12856 12857 12858 12859 12860 12861 12862 12863 12864 12865 12866 12867 12868 12869 12870 12871 12872 12873 12874 12875 12876 12877 12878 12879 12880 12881 12882 12883 12884 12885 12886 12887 12888 12889 12890 12891 12892 12893 12894 12895 12896 12897 12898 12899 12900 12901 12902 12903 12904 12905 12906 12907 12908 12909 12910 12911 12912 12913 12914 12915 12916 12917 12918 12919 12920 12921 12922 12923 12924 12925 12926 12927 12928 12929 12930 12931 12932 12933 12934 12935 12936 12937 12938 12939 12940 12941 12942 12943 12944 12945 12946 12947 12948 12949 12950 12951 12952 12953 12954 12955 12956 12957 12958 12959 12960 12961 12962 12963 12964 12965 12966 12967 12968 12969 12970 12971 12972 12973 12974 12975 12976 12977 12978 12979 12980 12981 12982 12983 12984 12985 12986 12987 12988 12989 12990 12991 12992 12993 12994 12995 12996 12997 12998 12999 13000 13001 13002 13003 13004 13005 13006 13007 13008 13009 13010 13011 13012 13013 13014 13015 13016 13017 13018 13019 13020 13021 13022 13023 13024 13025 13026 13027 13028 13029 13030 13031 13032 13033 13034 13035 13036 13037 13038 13039 13040 13041 13042 13043 13044 13045 13046 13047 13048 13049 13050 13051 13052 13053 13054 13055 13056 13057 13058 13059 13060 13061 13062 13063 13064 13065 13066 13067 13068 13069 13070 13071 13072 13073 13074 13075 13076 13077 13078 13079 13080 13081 13082 13083 13084 13085 13086 13087 13088 13089 13090 13091 13092 13093 13094 13095 13096 13097 13098 13099 13100 13101 13102 13103 13104 13105 13106 13107 13108 13109 13110 13111 13112 13113 13114 13115 13116 13117 13118 13119 13120 13121 13122 13123 13124 13125 13126 13127 13128 13129 13130 13131 13132 13133 13134 13135 13136 13137 13138 13139 13140 13141 13142 13143 13144 13145 13146 13147 13148 13149 13150 13151 13152 13153 13154 13155 13156 13157 13158 13159 13160 13161 13162 13163 13164 13165 13166 13167 13168 13169 13170 13171 13172 13173 13174 13175 13176 13177 13178 13179 13180 13181 13182 13183 13184 13185 13186 13187 13188 13189 13190 13191 13192 13193 13194 13195 13196 13197 13198 13199 13200 13201 13202 13203 13204 13205 13206 13207 13208 13209 13210 13211 13212 13213 13214 13215 13216 13217 13218 13219 13220 13221 13222 13223 13224 13225 13226 13227 13228 13229 13230 13231 13232 13233 13234 13235 13236 13237 13238 13239 13240 13241 13242 13243 13244 13245 13246 13247 13248 13249 13250 13251 13252 13253 13254 13255 13256 13257 13258 13259 13260 13261 13262 13263 13264 13265 13266 13267 13268 13269 13270 13271 13272 13273 13274 13275 13276 13277 13278 13279 13280 13281 13282 13283 13284 13285 13286 13287 13288 13289 13290 13291 13292 13293 13294 13295 13296 13297 13298 13299 13300 13301 13302 13303 13304 13305 13306 13307 13308 13309 13310 13311 13312 13313 13314 13315 13316 13317 13318 13319 13320 13321 13322 13323 13324 13325 13326 13327 13328 13329 13330 13331 13332 13333 13334 13335 13336 13337 13338 13339 13340 13341 13342 13343 13344 13345 13346 13347 13348 13349 13350 13351 13352 13353 13354 13355 13356 13357 13358 13359 13360 13361 13362 13363 13364 13365 13366 13367 13368 13369 13370 13371 13372 13373 13374 13375 13376 13377 13378 13379 13380 13381 13382 13383 13384 13385 13386 13387 13388 13389 13390 13391 13392 13393 13394 13395 13396 13397 13398 13399 13400 13401 13402 13403 13404 13405 13406 13407 13408 13409 13410 13411 13412 13413 13414 13415 13416 13417 13418 13419 13420 13421 13422 13423 13424 13425 13426 13427 13428 13429 13430 13431 13432 13433 13434 13435 13436 13437 13438 13439 13440 13441 13442 13443 13444 13445 13446 13447 13448 13449 13450 13451 13452 13453 13454 13455 13456 13457 13458

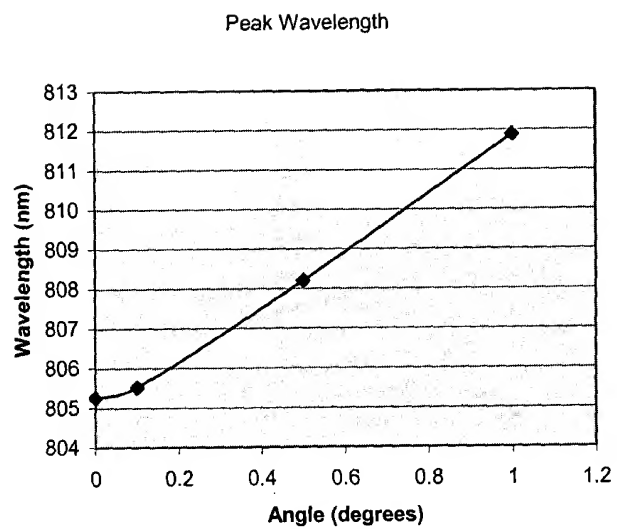


Figure 19

00930353 004574
TESTED 2526600

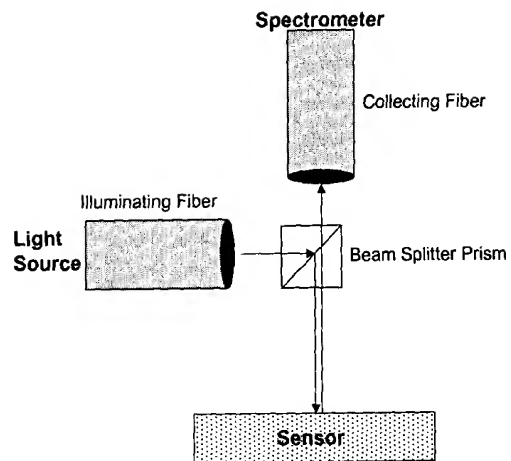


Figure 20

Figure 21

09030352, 081504
T05180, 25E0600

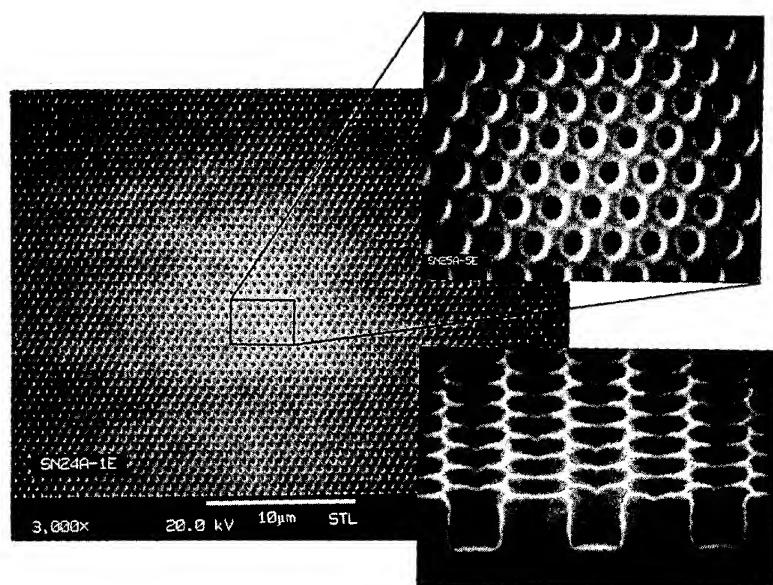


Figure 22

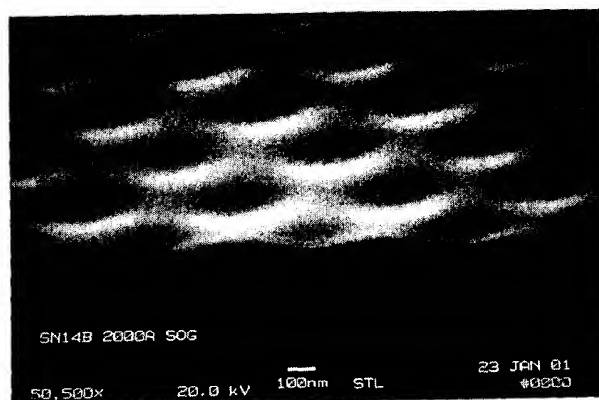


Figure 23

00030352.001501

FORM 250-001

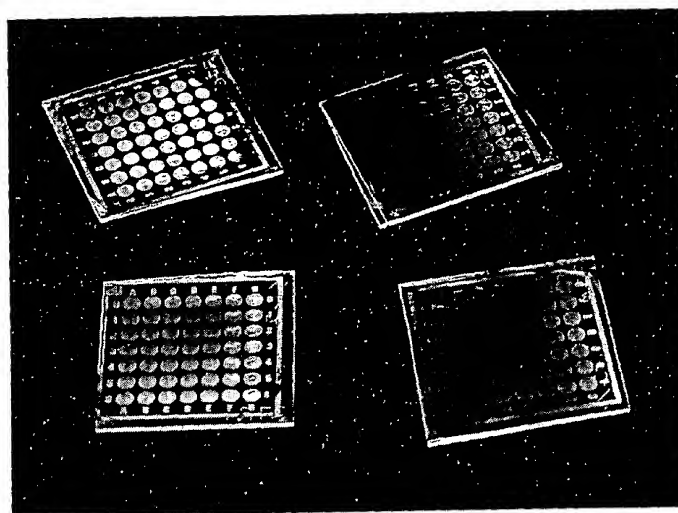


Figure 24

Albumin Deposition on Resonant Reflector

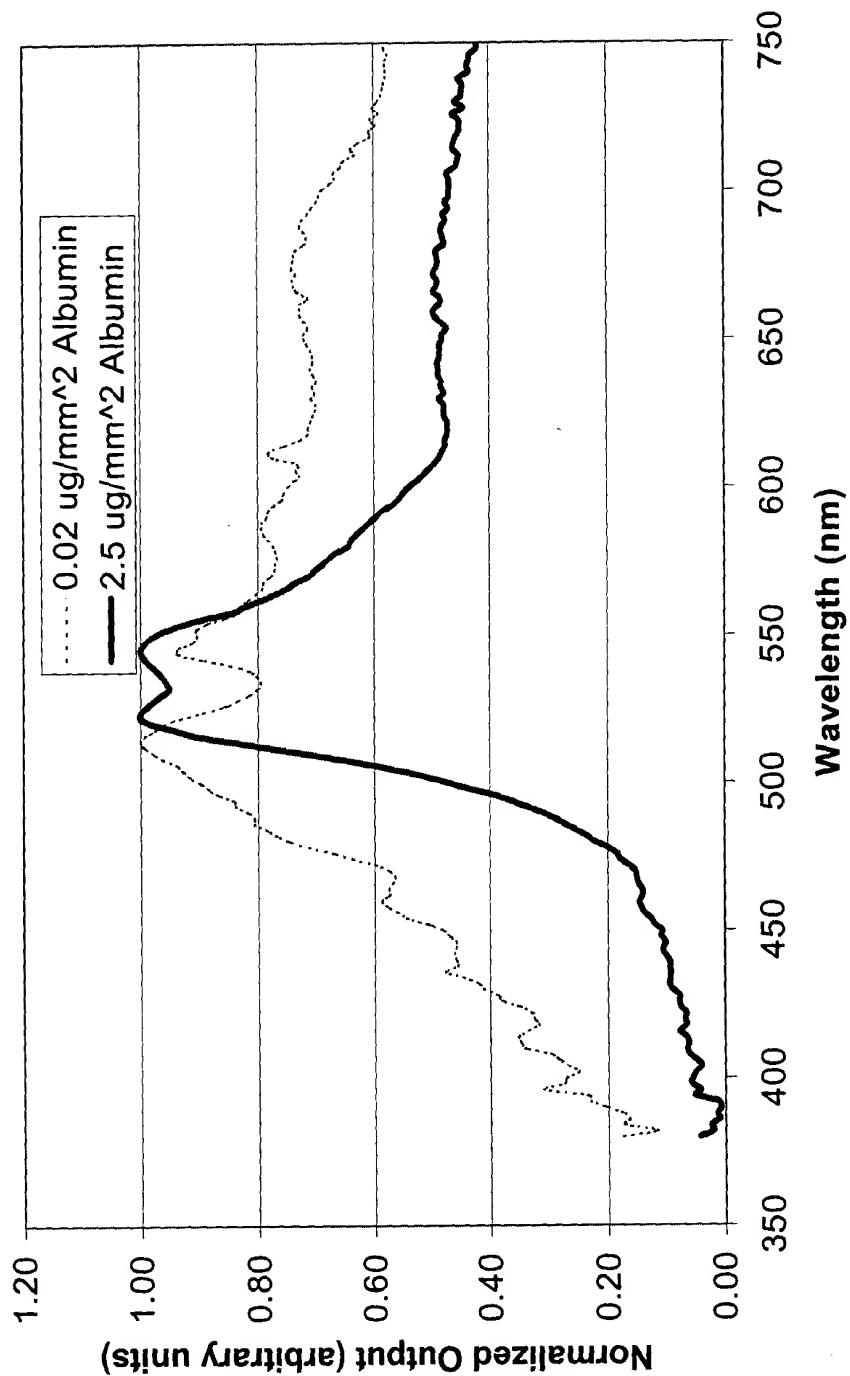


Figure 25

Figure 26

Resonant Reflector Measured in Water

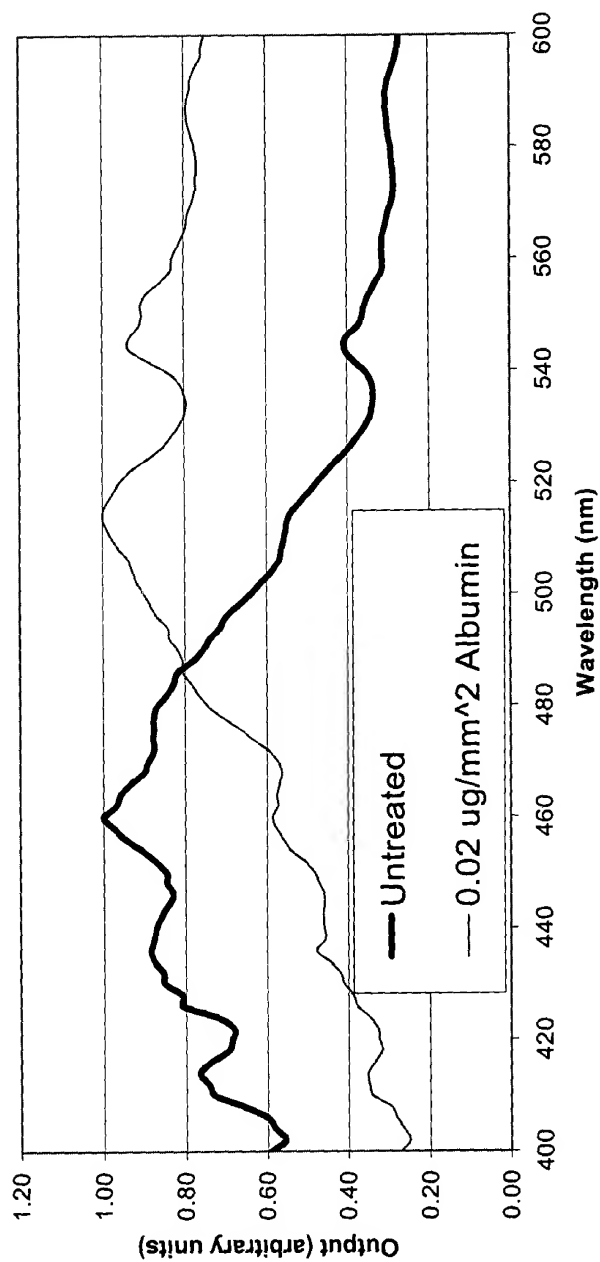


Figure 27

Bacteria immobilization on structure

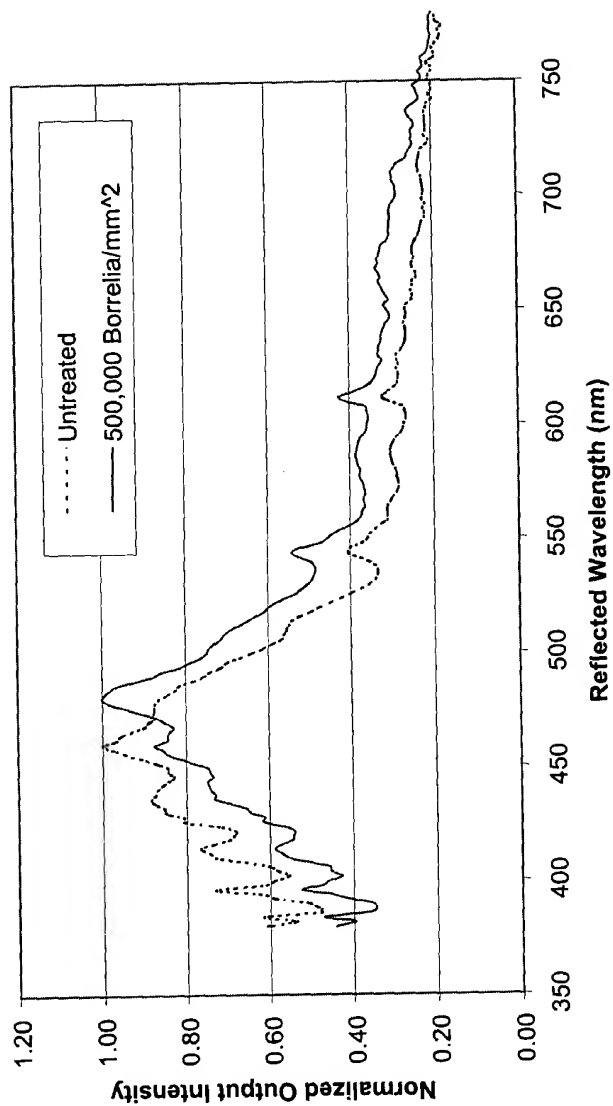


Figure 28

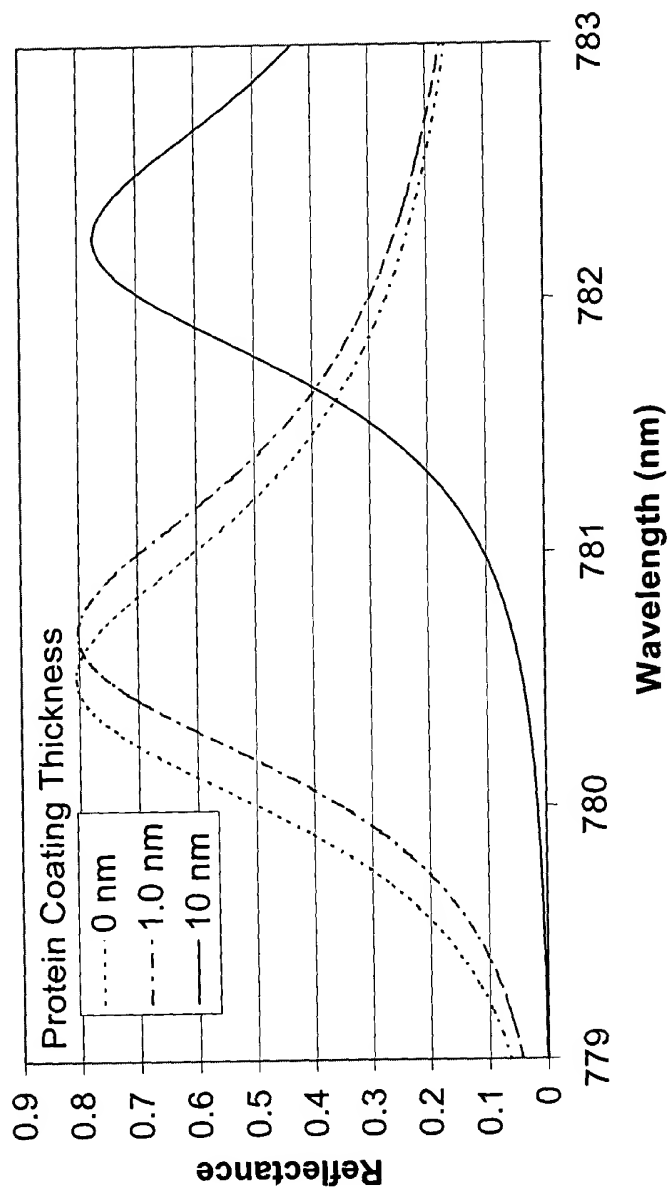
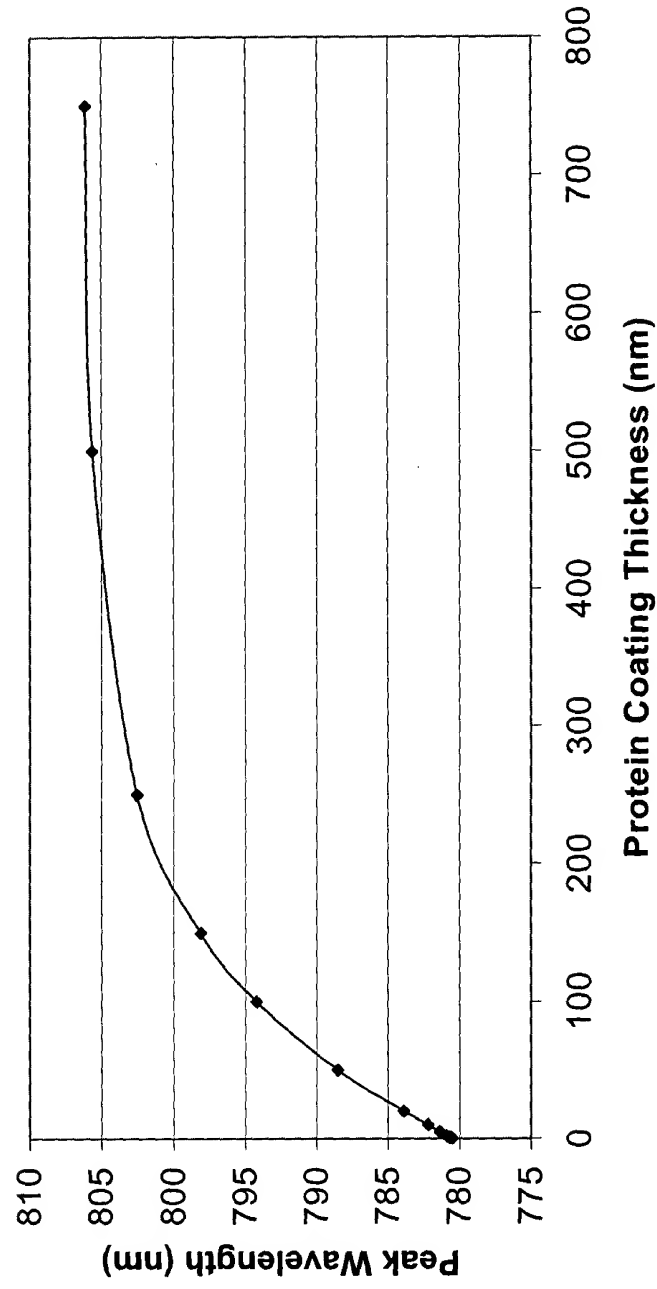


Figure 29



[illegible]

Reflected Resonance with Deposited Protein

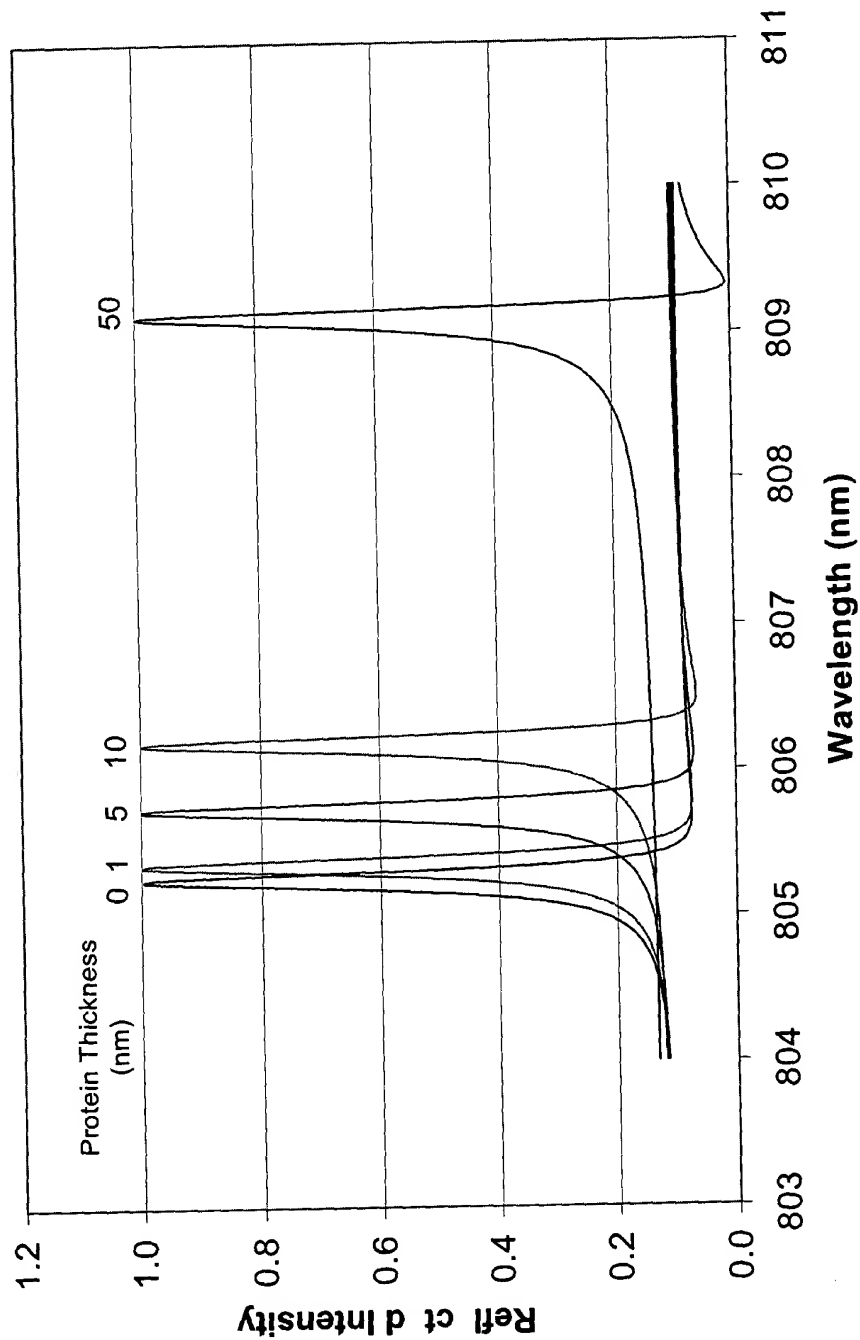


Figure 31

Resonant Peak Wavelength Dependence on Deposited Protein Thickness

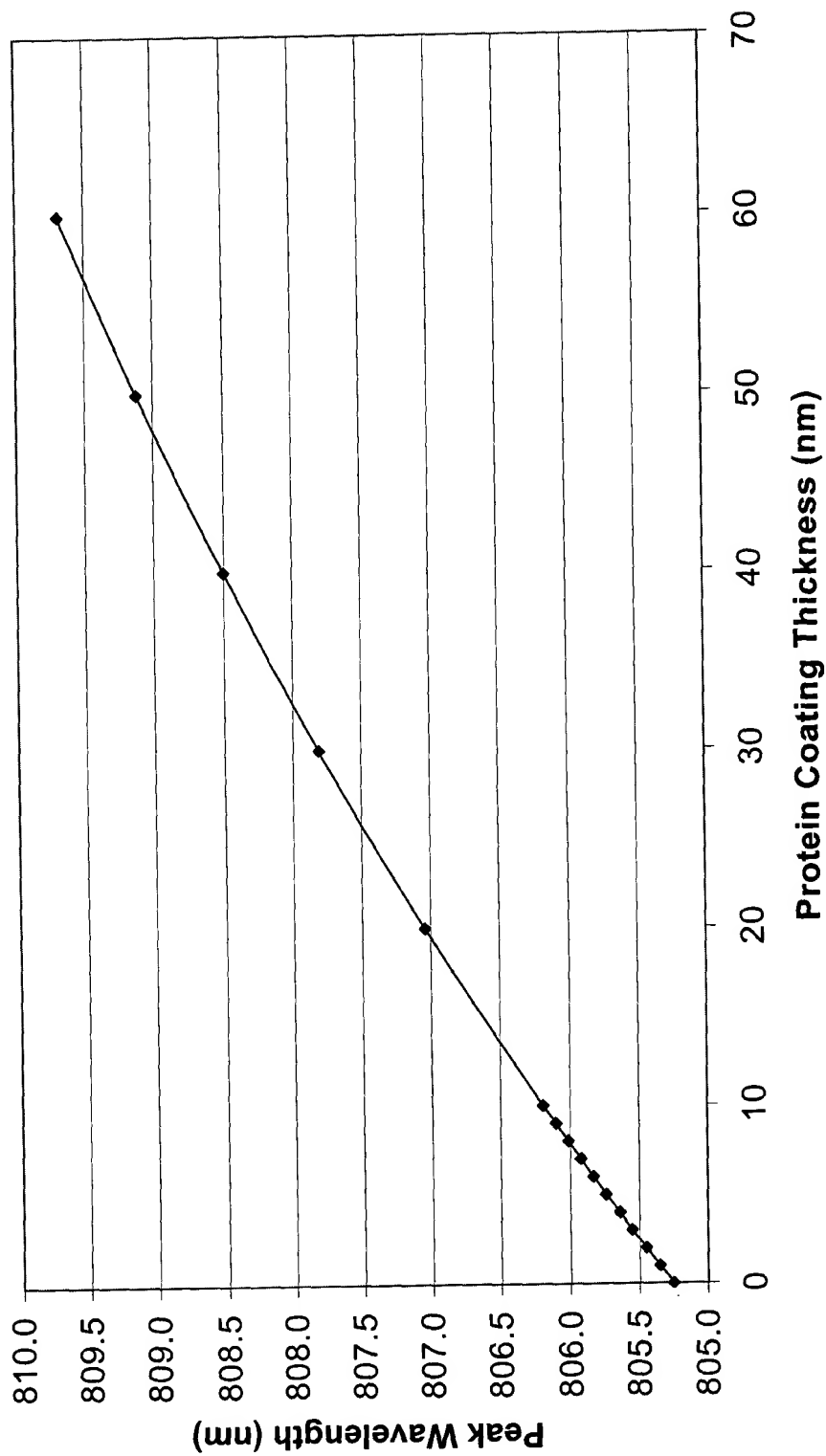


Figure 32

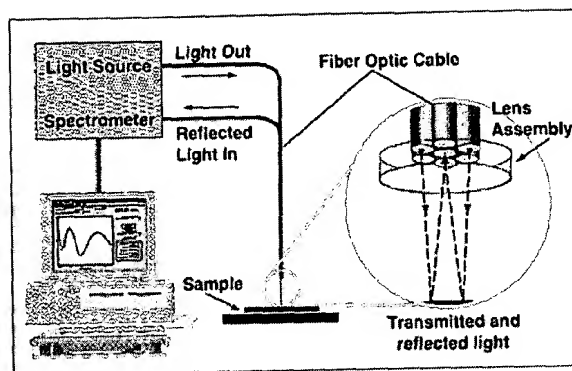


Figure 33

103780" 25E0E60

105180" 23E0E00

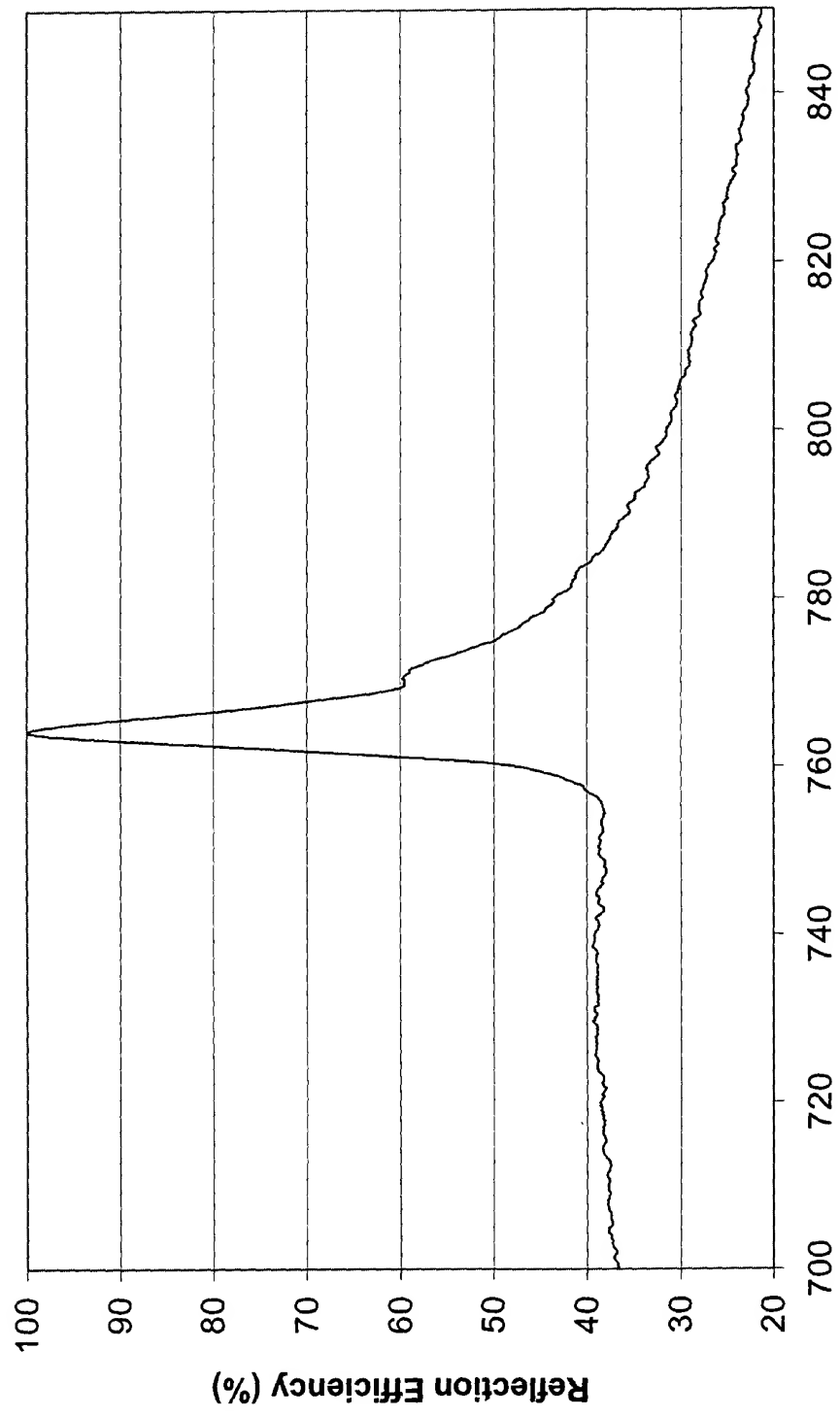
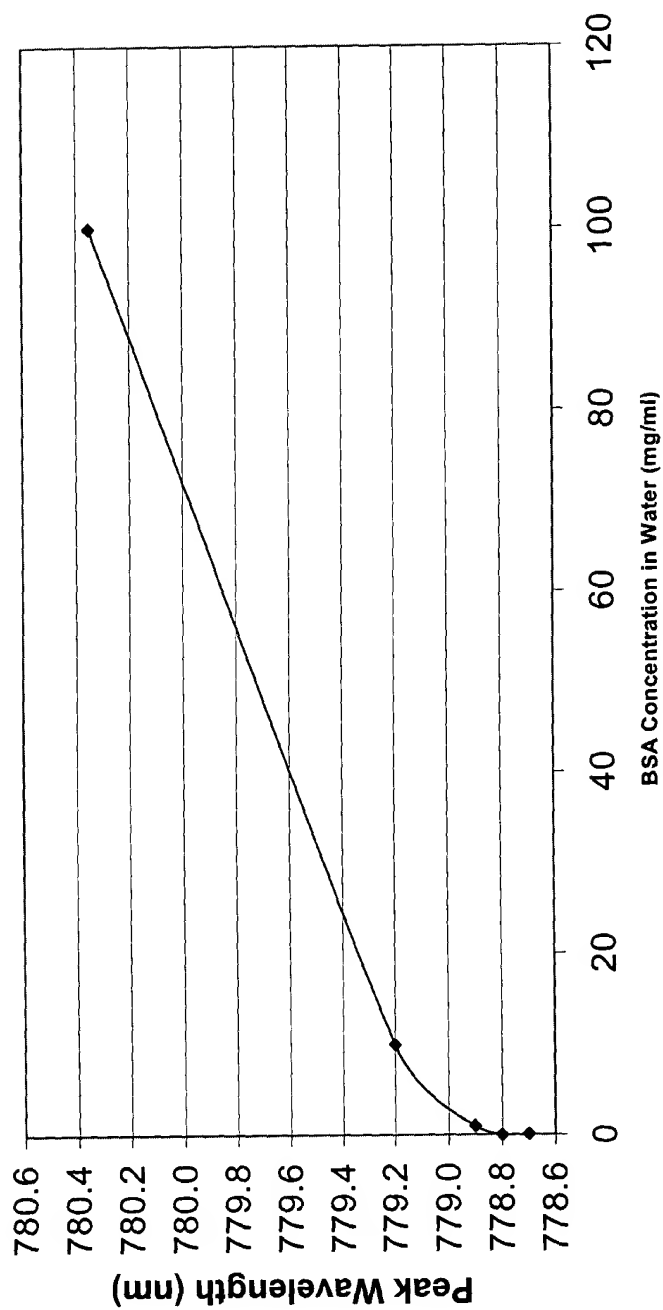


Figure 34

Figure 35



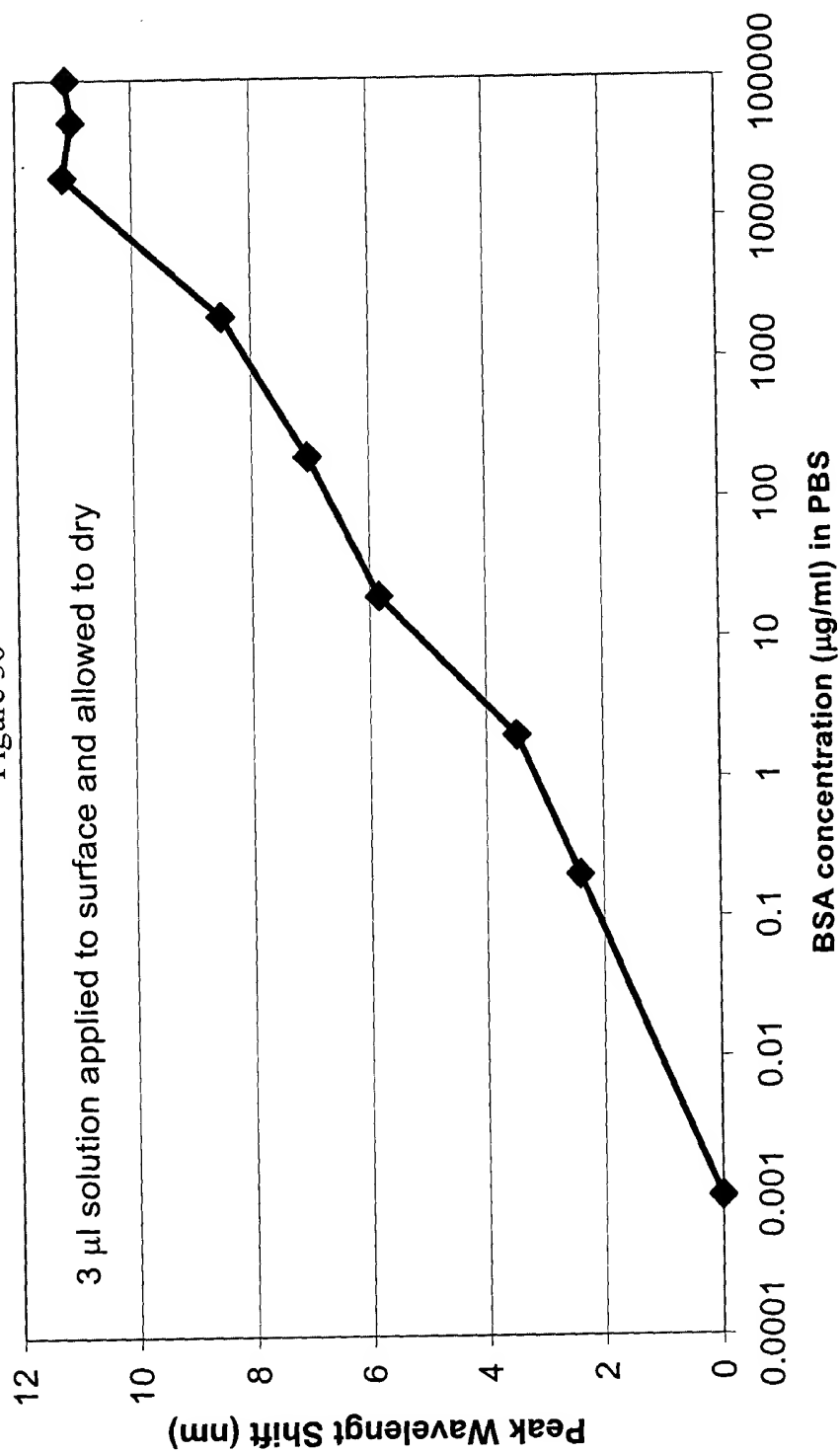


Figure 37A

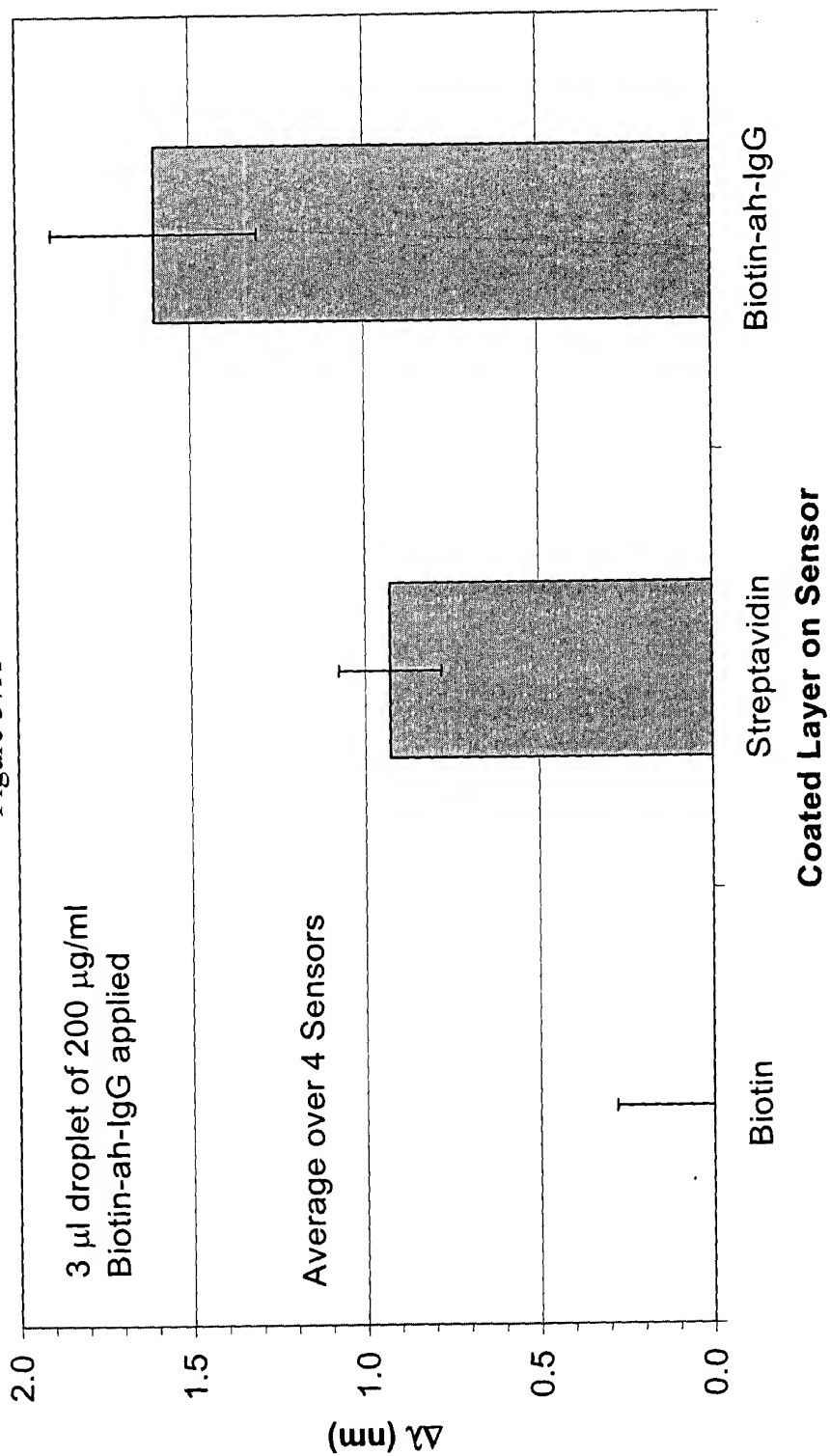
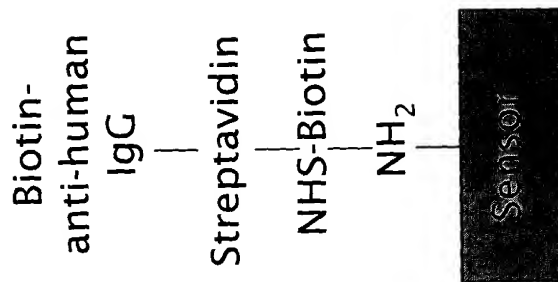


Figure 37B



FORM 80-2500000

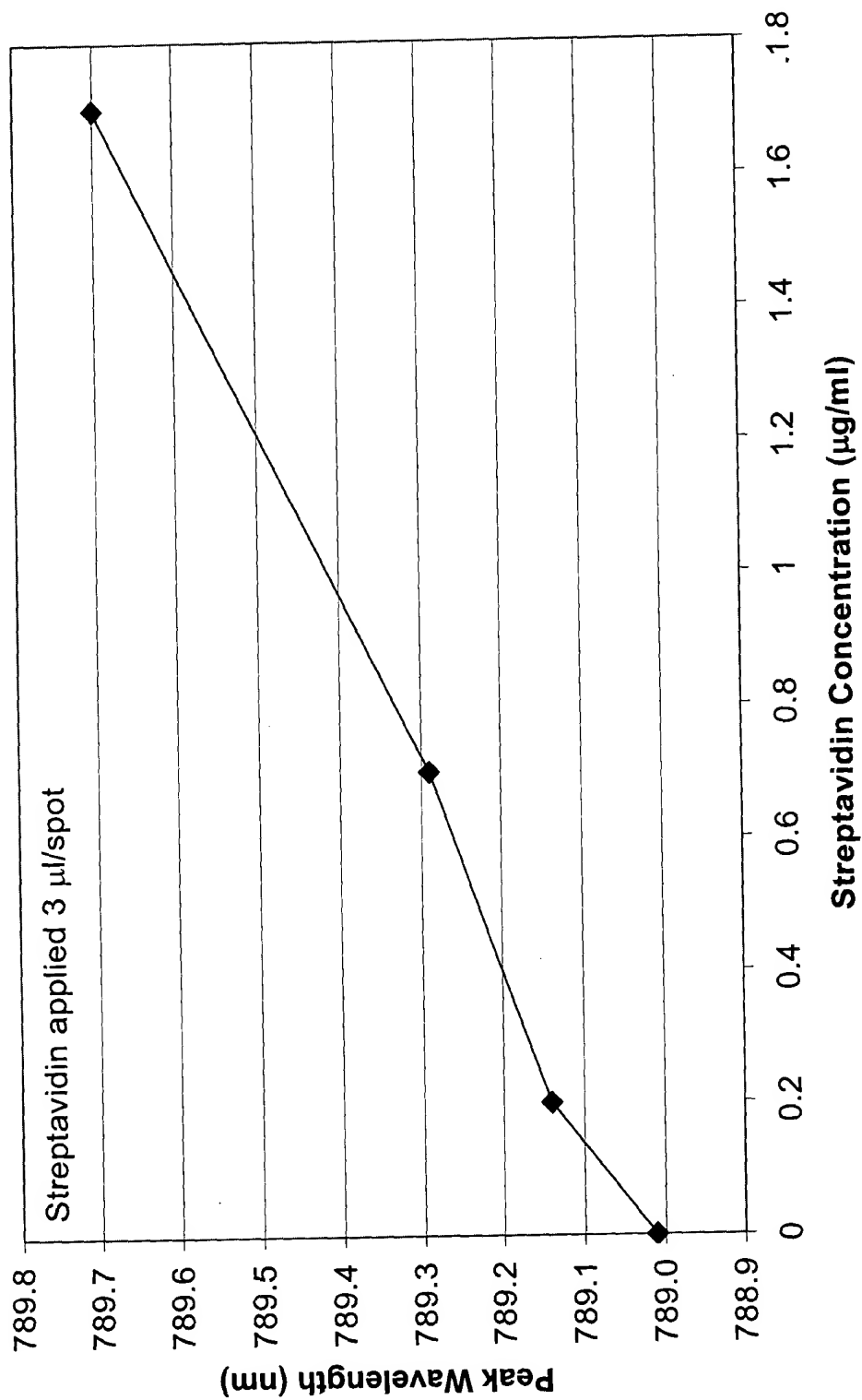
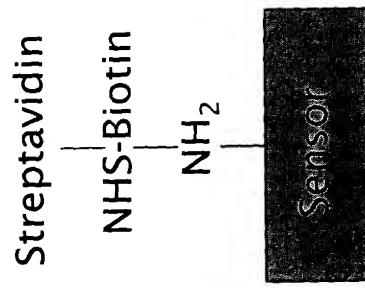


Figure 38A

Figure 38B



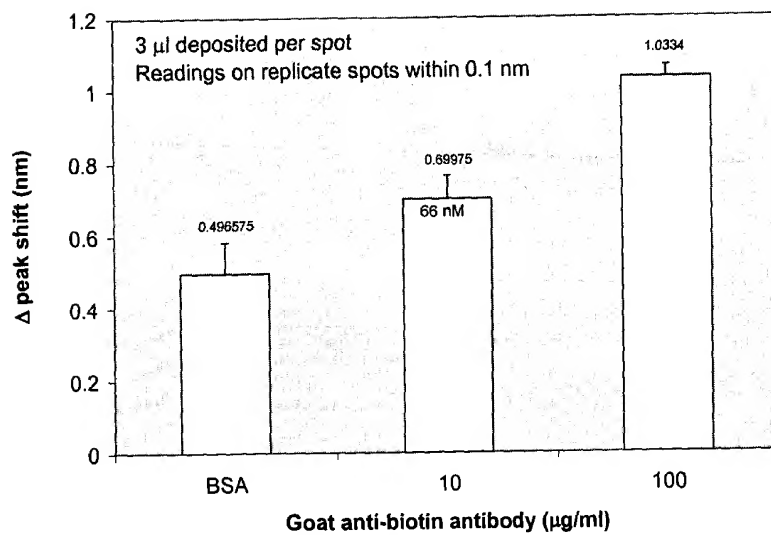


Figure 39A

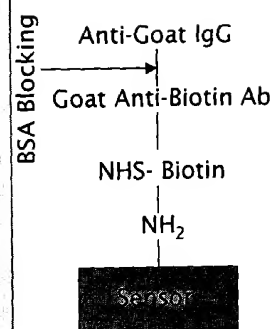
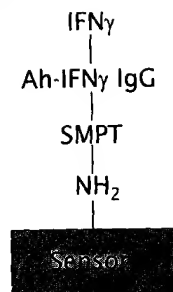
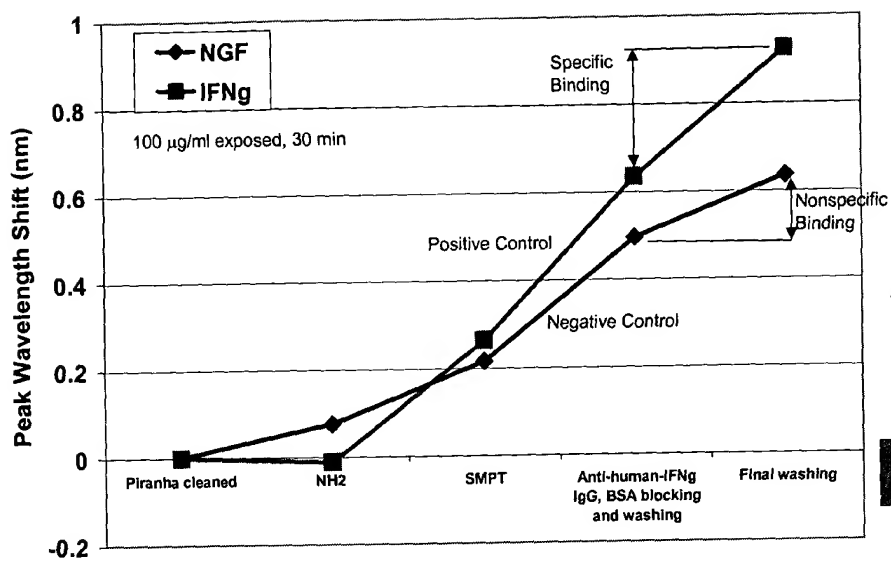


Figure 39B

Figure 39



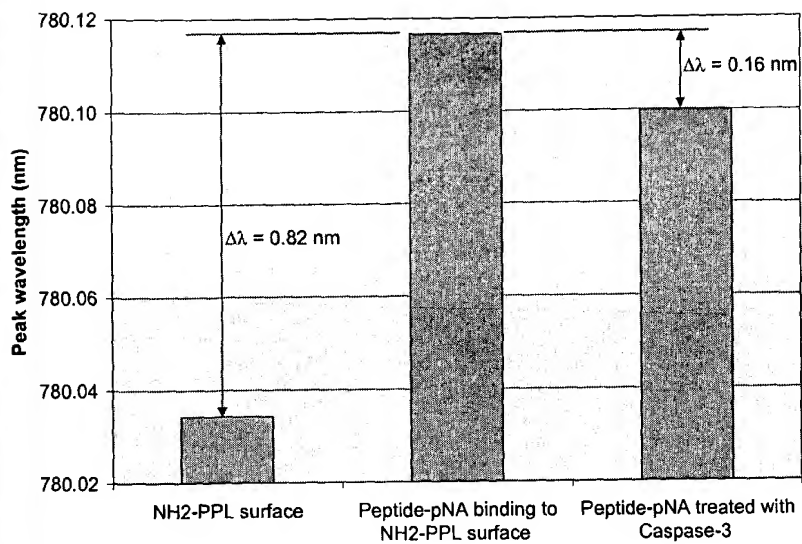


Figure 41A

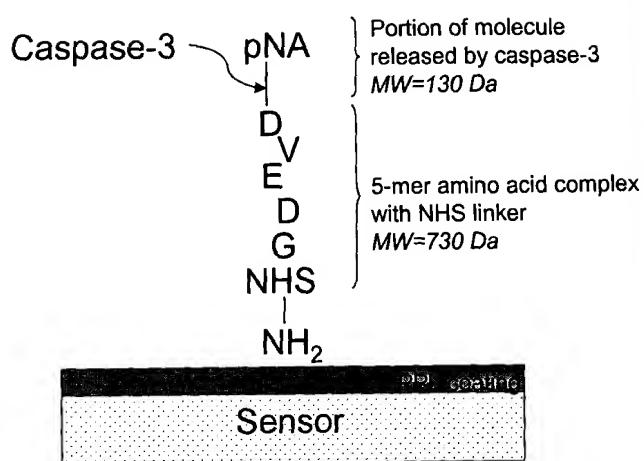


Figure 41B

Figure 41

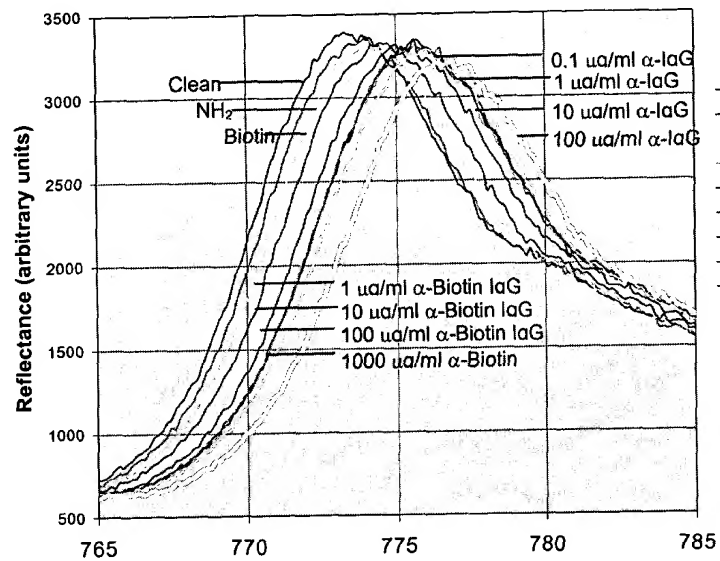


Figure 42A

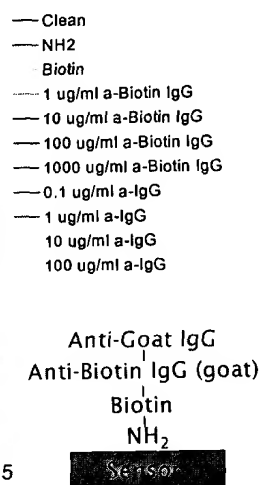


Figure 42B

Figure 42

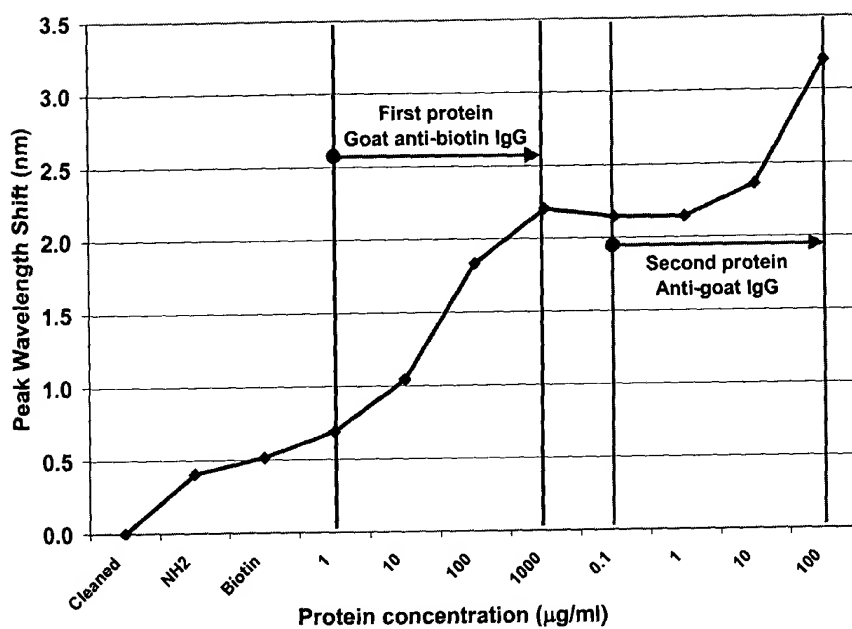


Figure 43A

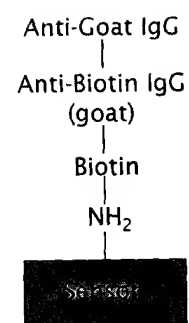


Figure 43B

Figure 43

775.50 775.60 775.70 775.80 775.90 776.00 776.10 776.20

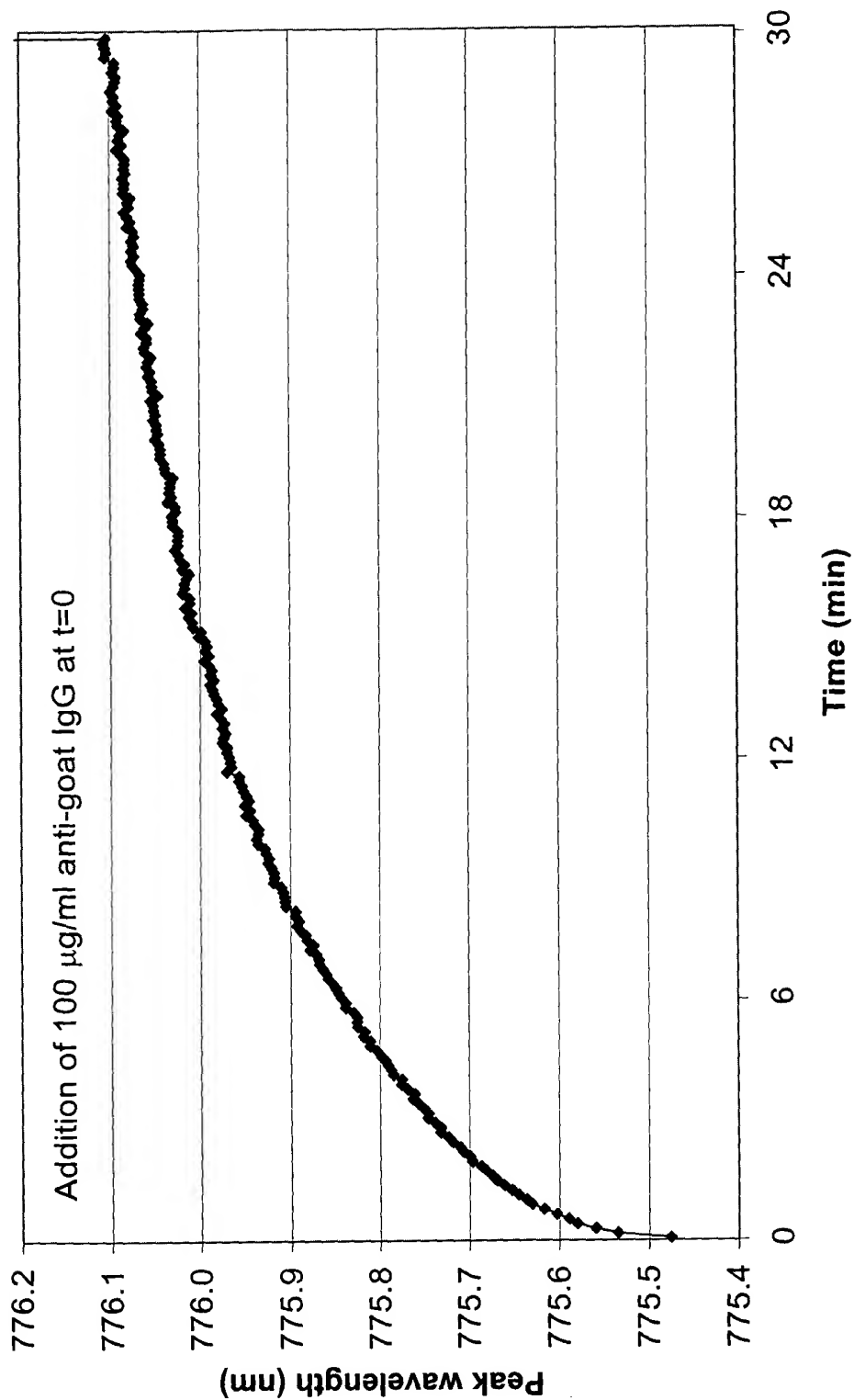
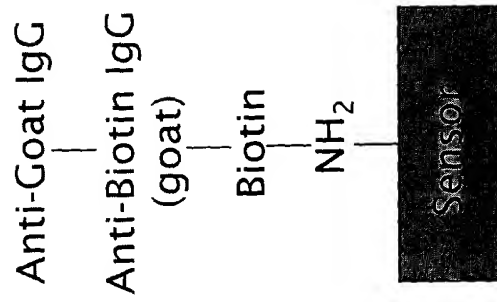


Figure 44A

Figure 44B



778.2 778.0 777.8 777.6 777.4 777.2 777.0 776.8

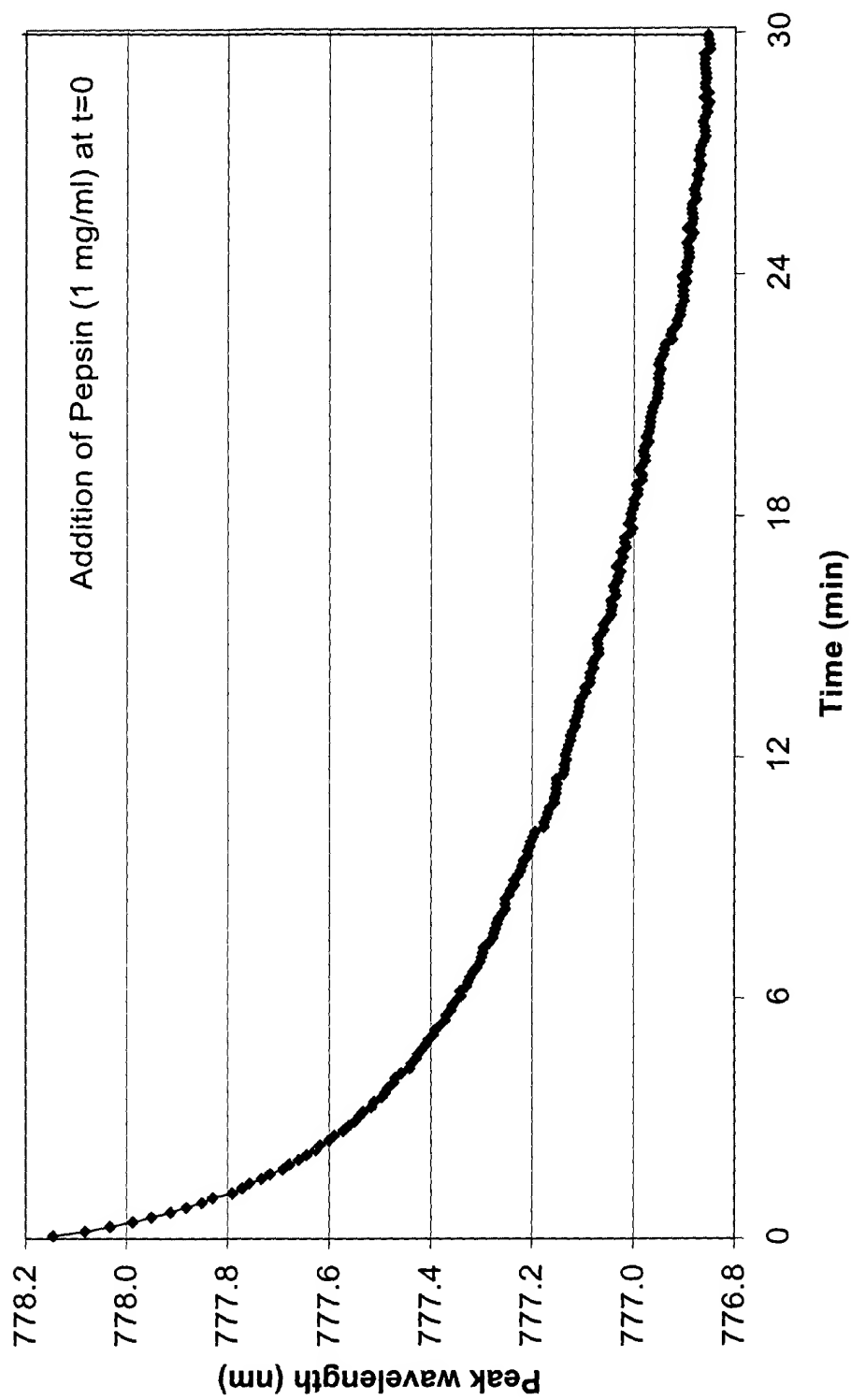
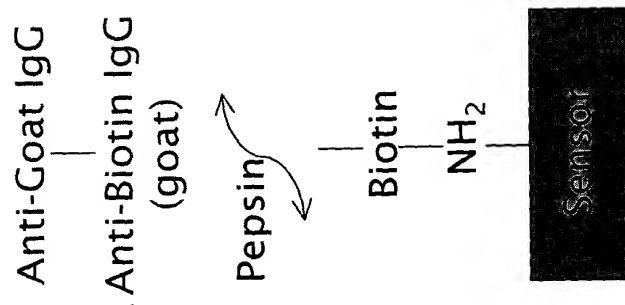


Figure 45A

Figure 45B



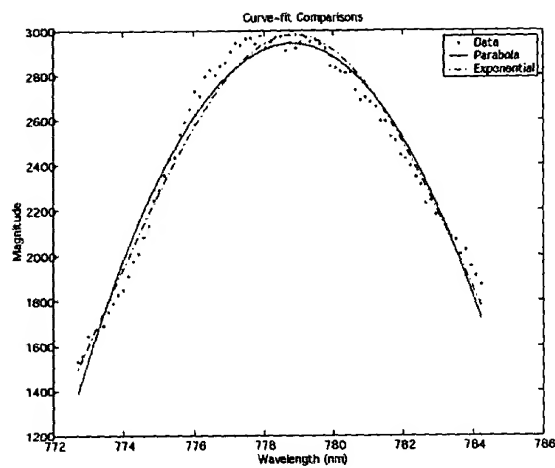


Figure 46

TOP SECRET 000000000000

103T30" 25202660

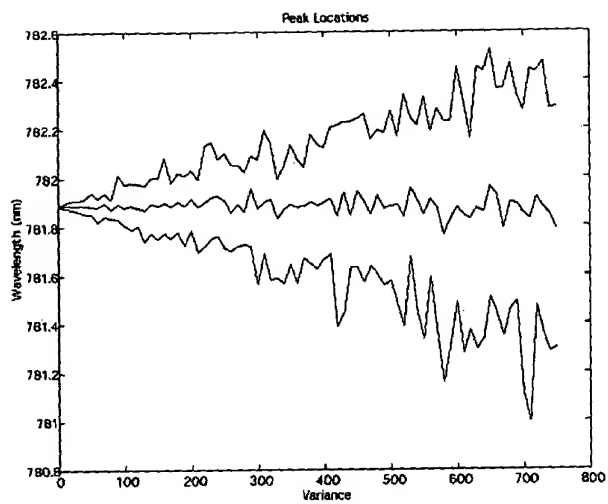
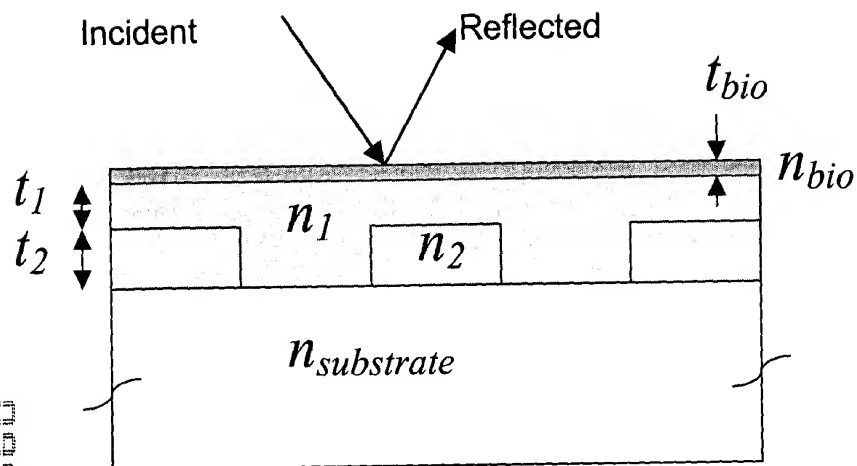


Figure 47



Material 1 = Electrical Insulator (photoresist, epoxy, glass)

Material 2 = Indium tin oxide conductor

Substrate = Glass

FIGURE 48

Concentric Circle Design



Figure 50
Hexagonal Grid Design

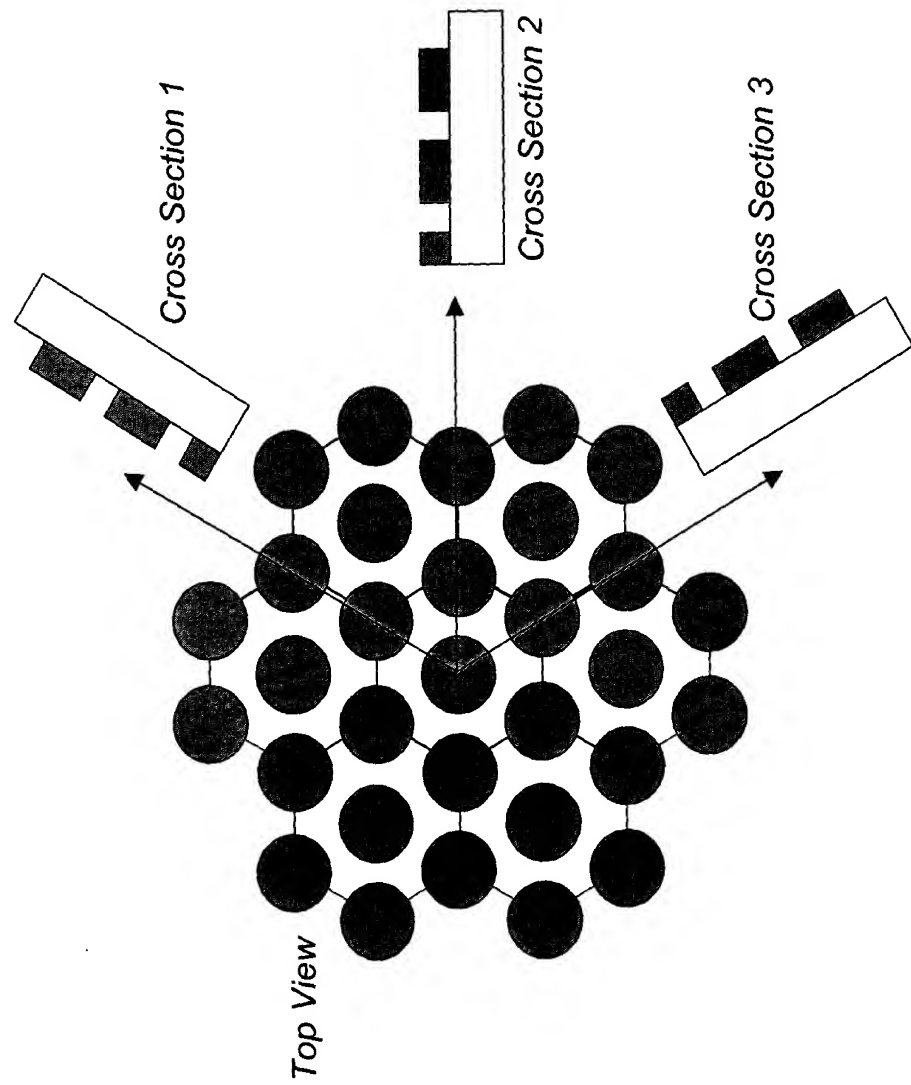


Figure 51

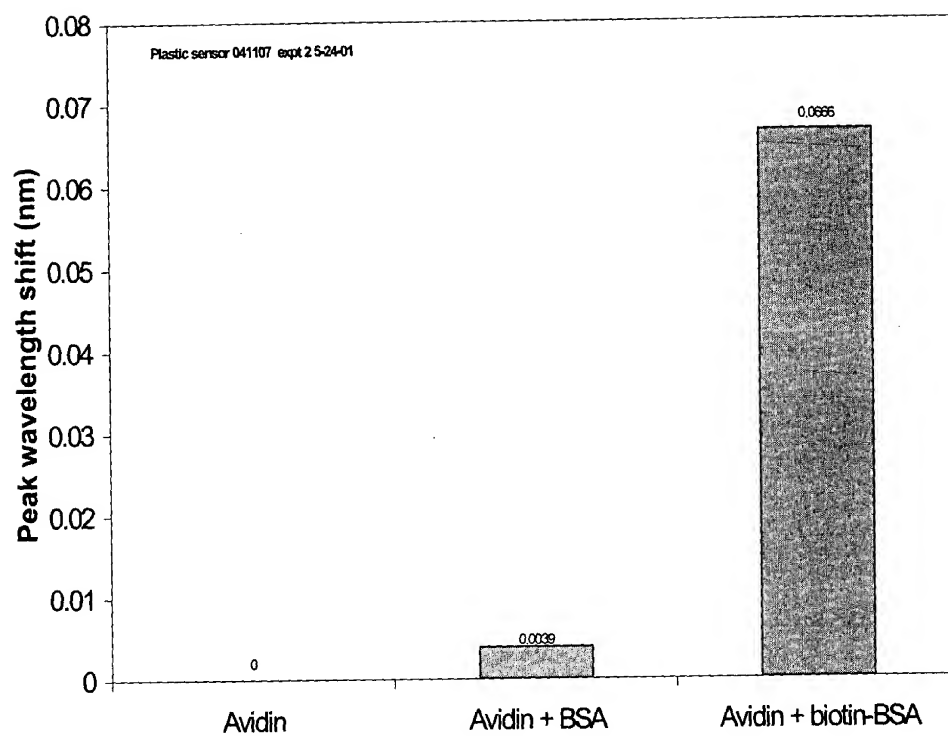


FIG. 52

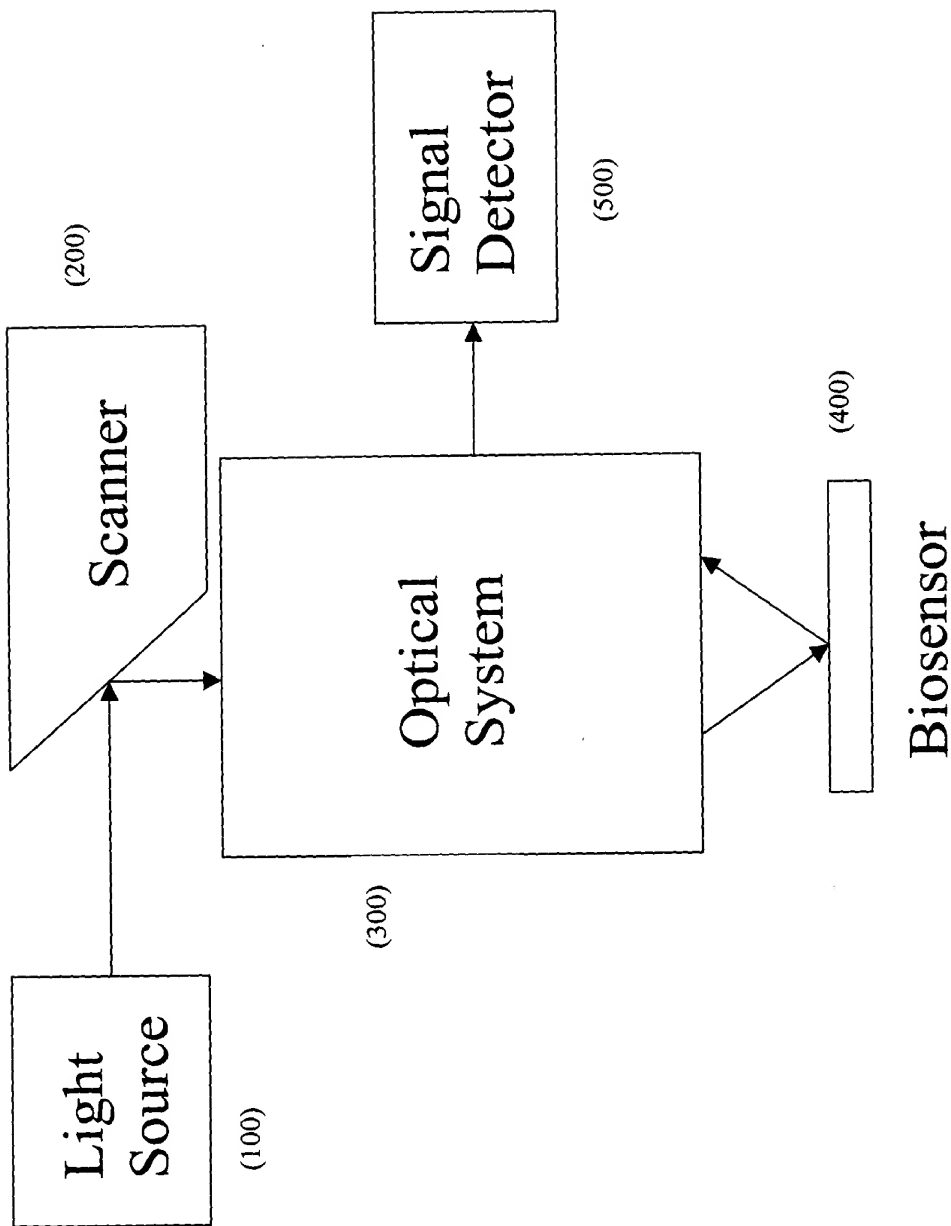


Figure 52